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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,664	10/22/2003	Yoshinori Abe	1767-119	6478
23117	7590	02/08/2006		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER VUONG, QUOCHIE B	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/689,664	Applicant(s) ABE, YOSHINORI	
	Examiner Quochien B. Vuong	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3 and 5 is/are allowed.
- 6) ☒ Claim(s) 2,4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/22/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/22/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers (US 6,628,932) in view of Applicant Admitted Prior Art (AAPA).

Regarding claim 2, Myers (figure 1) discloses an Automatic Gain Control system comprising: an radio-frequency amplifier (14); a local oscillator; a mixing unit that combines the output signal from the radio -frequency amplifier and the output signal from the local oscillator and generates an intermediate-frequency signal (22 which inherently including both local oscillator and mixing unit); a bandpass filter (24) that

limits the bandwidth of the intermediate-frequency signal; an intermediate-frequency amplifier (26) that amplifies the output signal from the bandpass filter; a first A/D converter (28) that converts the output signal from the bandpass filter from analog to digital; a power detector (18) that detects the power of the output signal from the radio-frequency amplifier; a second A/D converter (21) that converts the output signal from the power detector from analog to digital; and a controller (34) to which both the output signal from the first A/D converter and the output signal from the second A/D converter are input; and wherein the controller adjusts the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier based on the output signal from the first A/D converter and the output signal from the second A/D converter (column 1, line 57 – column 2, line 55). Myers thus disclose all the claimed limitations of claim 2 except a filtering unit that filters the output signal from the power detector. However, it is well known in the art for filtering unit that filters the output signal from the power detector as disclose in the AAPA (figure 2, item 26; page 3, lines 3-5). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the filtering unit of AAPA to the automatic gain control system of Myers in order to reduce the effects of noise and short-term power fluctuations as suggested by the AAPA (page 3, lines 3-5).

As to claim 4, Myers and AAPA disclose the automatic gain control system according to claim 2; in addition, Myers discloses the controller calculates both the power of the radio-frequency signal that is input to the radio-frequency amplifier and the power of the intermediate-frequency signal that is input to the intermediate-frequency

amplifier, whose bandwidth is limited, based on the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier, and adjusts the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier based on the calculated powers (column 2, lines 18-45).

As to claim 6, Myers and AAPA disclose the automatic gain control system according to claim 2. Myers and AAPA do not specifically disclose wherein the controller calculates an error rate for the data outputted from the second A/D converter, and adjusts the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier based on the calculated error rate. However, the examiner takes Official notice that it is well known in the art for a controller to calculate data error rate, and adjusts the gain of the amplifiers based on the calculated error rate. Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the controller for calculating data error rate and adjusting the gain of the amplifiers based on the calculated error rate to the controller of Myers and AAPA in order to reduce the data error rate and improve signal quality.

Allowable Subject Matter

5. Claims 1, 3, and 5 are allowed over the cited prior art.

Regarding independent claim 1, Myers (figure 1) disclose an Automatic Gain Control system comprising: an radio-frequency amplifier (14); a local oscillator; a mixing unit that combines the output signal from the radio -frequency amplifier and the output signal from the local oscillator and generates an intermediate-frequency signal (22

Art Unit: 2685

which inherently including both local oscillator and mixing unit); a bandpass filter (24) that limits the bandwidth of the intermediate-frequency signal; an intermediate-frequency amplifier (26) that amplifies the output signal from the bandpass filter; a power detector (18) that detects the power of the output signal from the radio-frequency amplifier; and a controller (34) adjusts the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier based on the output signal from the power detector and the intermediate-frequency amplifier (column 1, line 57 – column 2, line 55). And AAPA discloses a filtering unit that filters the output signal from the power detector (figure 2, item 26; page 3, lines 3-5). However, Myers and AAPA do not disclose the automatic gain control system further comprising an adder that adds the output signal from the filtering unit and the output signal from the intermediate-frequency amplifier; an A/D converter that converts the output signal from the adder from analog to digital; and a controller that adjusts the gain of the radio-frequency amplifier and the gain of the intermediate-frequency amplifier based on the output signal from the A/D converter.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Husted et al. (US 6,785,523) disclose self-correlation detection in automatic gain calibration.

Art Unit: 2685

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quochien B. Vuong whose telephone number is (571) 272-7902. The examiner can normally be reached on M-F 9:30-18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QUOCHIE B. VUONG
PRIMARY EXAMINER

Quochien B. Vuong
Feb. 03, 2006.